



C18:1 Frequencies  
for 92EF (WSGA 1AX Q0508)

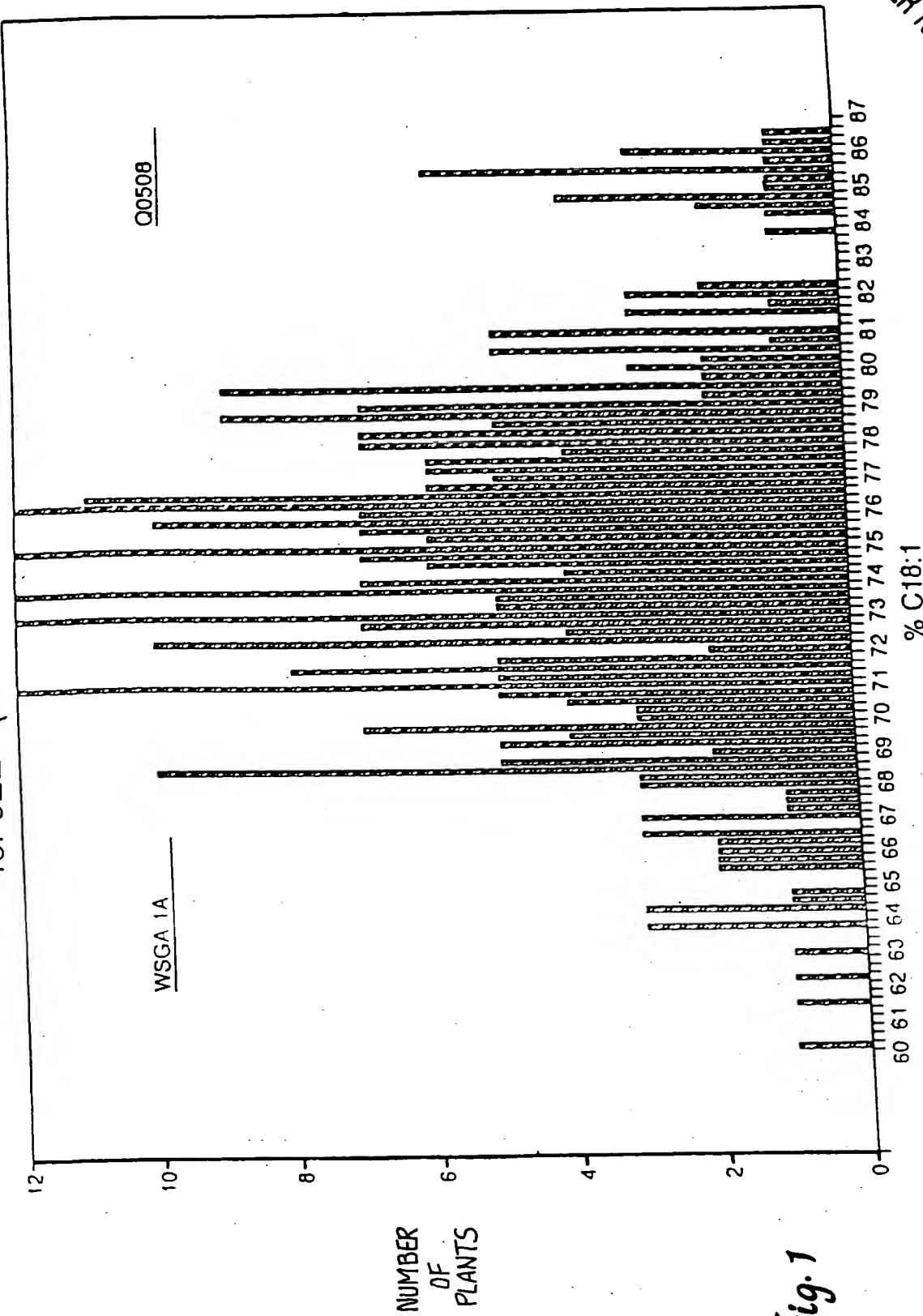


Fig. 1

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<pre> 10          20          30          40 ATGGTGGCAAGGAGAACTGGTGTCTCCCTCCCCA Fad2-D wt ATGGTGGCAAGGAGAACTGGTGTCTCCCTCCCCA Fad2-D (GA316) IMC 12S ATGGTGGCAAGGAGAACTGGTGTCTCCCTCCCCA Fad2-F wt ATGGTGGCAAGGAGAACTGGTGTCTCCCTCCCCA Fad2-F (TA515) Q508 ATGGTGGCAAGGAGAACTGGTGTCTCCCTCCCCA Fad2-F (GA908) Q4275         </pre>	<pre> 50          60          70          80 AAAGTCTGAAACCGAACATCAAAGGGTACCCCTGCCA Fad2-D wt AAAGTCTGAAACCGAACATCAAAGGGTACCCCTGCCA Fad2-D (GA316) IMC 12S AAAGTCTGAAACCGAACATCAAAGGGTACCCCTGCCA Fad2-F wt AAAGTCTGAAACCGAACATCAAAGGGTACCCCTGCCA Fad2-F (TA515) Q508 AAAGTCTGAAACCGAACATCAAAGGGTACCCCTGCCA Fad2-F (GA908) Q4275         </pre>	<pre> 90          100         110         120 GACACCGCCCTTCACTGGTGTCAAGAAAGCAATC Fad2-D wt GACACCGCCCTTCACTGGTGTCAAGAAAGCAATC Fad2-D (GA316) IMC 12S GACACCGCCCTTCACTGGTGTCAAGAAAGCAATC Fad2-F wt GACACCGCCCTTCACTGGTGTCAAGAAAGCAATC Fad2-F (TA515) Q508 GACACCGCCCTTCACTGGTGTCAAGAAAGCAATC Fad2-F (GA908) Q4275         </pre>	<pre> 130         140         150         160 CCACCGCACCTGGTTCAACGGCTCGGCTTCTTCT Fad2-D wt CCACCGCACCTGGTTCAACGGCTCGGCTTCTTCT Fad2-D (GA316) IMC 12S CCACCGCACCTGGTTCAACGGCTCGGCTTCTTCT Fad2-F wt CCACCGCACCTGGTTCAACGGCTCGGCTTCTTCT Fad2-F (TA515) Q508 CCACCGCACCTGGTTCAACGGCTCGGCTTCTTCT Fad2-F (GA908) Q4275         </pre>
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*Fig. 2A*

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Applicant(s): Lonn R. DeBonte, et al.  
**FATTY ACID DESATURASES AND MUTANT SEQUENCES  
THEREOF**

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170		180		190		200	
CCCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA	Fad2-D wt
1161		1161		1161		1161	IMC 125
CCCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA	Fad2-D (GA316)
1161		1161		1161		1161	IMC 125
CCCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA	Fad2-F wt
1161		1161		1161		1161	Q508
CCCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA		CCTACCTCATGGACATCATAGCCTCTGCTTCATA	Fad2-F (TA515)
1161		1161		1161		1161	Q4275
		210		220		230	
CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT	Fad2-D wt
201		201		201		201	IMC 125
CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT	Fad2-D (GA316)
201		201		201		201	IMC 125
CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT	Fad2-F wt
201		201		201		201	Q508
CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT		CTACGGTCCCAACCACCTACTTCCCTCTCCTCCCT	Fad2-F (TA515)
201		201		201		201	Q4275
		250		260		270	
CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT	Fad2-D wt
241		241		241		241	IMC 125
CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT	Fad2-D (GA316)
241		241		241		241	IMC 125
CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT	Fad2-F wt
241		241		241		241	Q508
CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT		CTCTCCTACTTCGCCCCCTCTAACTGGGGCTGGCT	Fad2-F (TA515)
241		241		241		241	Q4275
		290		300		310	
GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT	Fad2-D wt
281		281		281		281	IMC 125
GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT	Fad2-D (GA316)
281		281		281		281	IMC 125
GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT	Fad2-F wt
281		281		281		281	Q508
GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT		GCTGGCGCTAAACCCGGGTCTGGGGCTGGCT	Fad2-F (GA908)
281		281		281		281	Q4275
		320					

Fig. 2B

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	330	340	350	360
321	C G G C C A C C A C G G C T T C A G C G G A C T A C C A G C T G G C T G G A C G A C	Fad2-D wt		
321	C G G C C A C C A C G G C T T C A G C G G A C T A C C A G C T G G C T G G A C G A C	Fad2-D (GA316) IMC 125		
321	C G G C C A C C A C G G C T T C A G C G G A C T A C C A G C T G G C T G G A C G A C	Fad2-F wt		
321	C G G C C A C C A C G G C T T C A G C G G A C T A C C A G C T G G C T G G A C G A C	Fad2-F (TA515) Q508		
321	C G G C C A C C A C G G C T T C A G C G G A C T A C C A G C T G G C T G G A C G A C	Fad2-F (GA908) Q4275		
	370	380	390	400
361	A C C G T C G G C C T C A T C T T C C A C T C C T C C A C T C C T C C A C T C C T C	Fad2-D wt		
361	A C C G T C G G C C T C A T C T T C C A C T C C T C C A C T C C T C C A C T C C T C	Fad2-D (GA316) IMC 125		
361	A C C G T C G G G T C T C A T C T T C C A C T C C T C C A C T C C T C C A C T C C T C	Fad2-F wt		
361	A C C G T C G G G T C T C A T C T T C C A C T C C T C C A C T C C T C C A C T C C T C	Fad2-F (TA515) Q508		
361	A C C G T C G G G T C T C A T C T T C C A C T C C T C C A C T C C T C C A C T C C T C	Fad2-F (GA908) Q4275		
	410	420	430	440
401	A C T T C T C C T G G A A G T A C A G T C A T C G A C C G C A C C A T T C C A A	Fad2-D wt		
401	A C T T C T C C T G G A A G T A C A G T C A T C G A C C G C A C C A T T C C A A	Fad2-D (GA316) IMC 129		
401	A C T T C T C C T G G A A G T A C A G T C A T C G A C C G C A C C A T T C C A A	Fad2-F wt		
401	A C T T C T C C T G G A A G T A C A G T C A T C G A C C G C A C C A T T C C A A	Fad2-F (TA515) Q508		
401	A C T T C T C C T G G A A G T A C A G T C A T C G A C C G C A C C A T T C C A A	Fad2-F (GA908) Q4275		
	450	460	470	480
441	C A C T G G C T C C C T C G A G A G A G C G A A G T G T T G T C C C C A A G	Fad2-D wt		
441	C A C T G G C T C C C T C G A G A G A G C G A A G T G T T G T C C C C A A G	Fad2-D (GA316) IMC 129		
441	C A C T G G C T C C C T C G A G A G A G C G A A G T G T T G T C C C C A A G	Fad2-F wt		
441	C A C T G G C T C C C T C G A G A G A G C G A A G T G T T G T C C C C A A G	Fad2-F (TA515) Q508		
441	C A C T G G C T C C C T C G A G A G A G C G A A G T G T T G T C C C C A A G	Fad2-F (GA908) Q4275		
			<i>Fig. 2C</i>	

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<pre> 490          500          510          520 A G A A G T C A G A C A T C A A G T G G T A C G G C A A G T A C C T C A A C A Fad2-D wt 481          A G A A G T C A G A C A T C A A G T G G T A C G G C A A G T A C C T C A A C A Fad2-D (GA316) IMC 129 481          A G A A G T C A G A C A T C A A G T G G T A C G G C A A G T A C C T C A A C A Fad2-F wt 481          A G A A G T C A G A C A T C A A G T G G T A C G G C A A G T A C C A C A Fad2-F (TA515) Q508 481          A G A A G T C A G A C A T C A A G T G G T A C G G C A A G T A C C T C A A C A Fad2-F (GA908) Q4275 481          A G A A G T C A G A C A T C A A G T G G T A C G G C A A G T A C C T C A A C A Fad2-F (GA908) Q4275         </pre>
<pre> 530          540          550          560 A C C C T T T G G G A C C G G A C C G G A C C G G A C C G G A C C G G A C C G G Fad2-D wt 521          A C C C T T T G G G A C C G G A C C G G A C C G G A C C G G A C C G G A C C G G Fad2-D (GA316) IMC 129 521          A C C C T T T G G G A C C G G A C C G G A C C G G A C C G G A C C G G A C C G G Fad2-F wt 521          A C C C T T T G G G A C C G G A C C G G A C C G G A C C G G A C C G G A C C G G Fad2-F (TA515) Q508 521          A C C C T T T G G G A C C G G A C C G G A C C G G A C C G G A C C G G A C C G G Fad2-F (GA908) Q4275         </pre>
<pre> 570          580          590          600 T C T C G G G C T T G G C C T T G T A C T T A G C C T T C A A C G T C T C G G G Fad2-D wt 561          T C T C G G G C T T G G C C T T G T A C T T A G C C T T C A A C G T C T C G G G Fad2-D (GA316) IMC 129 561          T C T C G G G C T T G G C C T T G T A C T T A G C C T T C A A C G T C T C G G G Fad2-F wt 561          T C T C G G G C T T G G C C T T G T A C T T A G C C T T C A A C G T C T C G G G Fad2-F (TA515) Q508 561          T C T C G G G C T T G G C C T T G T A C T T A G C C T T C A A C G T C T C G G G Fad2-F (GA908) Q4275         </pre>
<pre> 610          620          630          640 A G A C C T T A C G A C G G C G G C T T C G G C T T G C C A T T T C C A C C C C A Fad2-D wt 601          A G A C C T T A C G A C G G C G G C T T C G G C T T G C C A T T T C C A C C C C A Fad2-D (GA316) IMC 129 601          A G A C C T T A C G A C G G C G G C T T C G G C T T G C C A T T T C C A C C C C A Fad2-F wt 601          A G A C C T T A C G A C G G C G G C T T C G G C T T G C C A T T T C C A C C C C A Fad2-F (TA515) Q508 601          A G A C C T T A C G A C G G C G G C T T C G G C T T G C C A T T T C C A C C C C A Fad2-F (GA908) Q4275 601          A G A C C T T A C G A C G G C G G C T T C G G C T T G C C A T T T C C A C C C C A Fad2-F (GA908) Q4275         </pre>

72-fig

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Applicant(s): Lorin R. DeBonte, et al.  
**FATTY ACID DESATURASES AND MUTANT SEQUENCES  
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Fig. 22



810	820	830	840	Fad2-D wt
801	A G T T T G A T C A C T T A C T T G C A G G C A C A C G G C A T T C C T T C C C T G			
801	A G T T T G A T C A C T T A C T T G C A G G C A C A C G G C A T T C C T T C C C T G	Fad2-D (GA316)	IMC 125	Fad2-D wt
801	C G T G T T G A T C A C T T A C T T G C A G G C A C A C G G C A T T C C T T C C C T G			
801	C G T G T T G A T C A C T T A C T T G C A G G C A C A C G G C A T T C C T T C C C T G	Fad2-F (TA515)	Q508	Fad2-F wt
801	C G T G T T G A T C A C T T A C T T G C A G G C A C A C G G C A T T C C T T C C C T G	Fad2-F (GA908)	Q4275	Fad2-F (GA908) Q4275
850	860	870	880	Fad2-D wt
841	C C T C A C T A T G A C T C G T C T G A G T G G G A T T G G G T T G A G G G A G			
841	C C T C A C T A T G A C T C G T C T G A G T G G G A T T G G G T T G A G G G A G	Fad2-D (GA316)	IMC 125	Fad2-D wt
841	C C T C A C T A C G A T T C G G A T T G G G A T T G G G T T G A G G G A G			
841	C C T C A C T A C G A T T C G G A T T G G G T T G A G G G A G	Fad2-F (TA515)	Q508	Fad2-F wt
841	C C T C A C T A C G A T T C G G A T T G G G T T G A G G G A G	Fad2-F (GA908)	Q4275	Fad2-F (GA908) Q4275
890	900	910	920	Fad2-D wt
881	C T T T G G C C A C C G T T G A C A G A C T A C G G A A T T C T T G A A C A A			
881	C T T T G G C C A C C G T T G A C A G A C T A C G G A A T T C T T G A A C A A	Fad2-D (GA316)	IMC 125	Fad2-D wt
881	C T T T G G C T A C C G T T G A C A G A C T A C G G A A T T C T T G A A C A A			
881	C T T T G G C T A C C G T T G A C A G A C T A C G G A A T T C T T G A A C A A	Fad2-F (TA515)	Q508	Fad2-F wt
881	C T T T G G C T A C C G T T G A C A G A C T A C G G A A T T C T T G A A C A A	Fad2-F (GA908)	Q4275	Fad2-F (GA908) Q4275
930	940	950	960	Fad2-D wt
921	G G T C T T C C A C A A T A T C A C G G C A C G T G G C G C A T C A C			
921	G G T C T T C C A C A A T A T C A C G G C A C G C A C G T G G C G C A T C A C	Fad2-D (GA316)	IMC 125	Fad2-D wt
921	G G T C T T C C A C A A T A T C A C G G C A C G C A C G T G G C G C A T C A T			
921	G G T C T T C C A C A A T A T C A C G G C A C G C A C G T G G C G C A T C A T	Fad2-F (TA515)	Q508	Fad2-F wt
921	G G T C T T C C A C A A T A T C A C G G C A C G C A C G T G G C G C A T C A T	Fad2-F (GA908)	Q4275	Fad2-F (GA908) Q4275

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Fig. 2f



<pre> 970          980          990          1000 C T G T T C T C G A C C A T G C C G C A T T A T C A T G C G A T G G A A G C T A Fad2-D wt 961          C T G T T C T C G A C C A T G C C G C A T T A T C A T G C G A T G G A A G C T A Fad2-D (GA316) IMC 129 961          C T G T T C T C G A C C A T G C C G C A T T A T C A C G G A T G G A A G C T A Fad2-F wt 961          C T G T T C T C G A C C A T G C C G C A T T A T C A C G G A T G G A A G C T A Fad2-F (TA515) Q508 961          C T G T T C T C G A C C A T G C C G C A T T A T C A C G G A T G G A A G C T A Fad2-F (GA908) Q4275 961          C T G T T C T C G A C C A T G C C G C A T T A T C A C G G A T G G A A G C T A Fad2-F (GA908) Q4275 </pre>	<pre> 1000 </pre>	<pre> 1020          1030          1040 C G A G G C G A T A A A G C C G A T A C T G G G A G A G T A T T A T C A G T T Fad2-D wt 1001          C G A G G C G A T A A A G C C G A T A C T G G G A G A G T A T T A T C A G T T Fad2-D (GA316) IMC 129 1001          C C A G G C G A T A A A G C C G A T A C T G G G A G A G T A T T A T C A G T T Fad2-F wt 1001          C C A G G C G A T A A A G C C G A T A C T G G G A G A G T A T T A T C A G T T Fad2-F (TA515) Q508 1001          C C A G G C G A T A A A G C C G A T A C T G G G A G A G T A T T A T C A G T T Fad2-F (GA908) Q4275 1001          C C A G G C G A T A A A G C C G A T A C T G G G A G A G T A T T A T C A G T T Fad2-F (GA908) Q4275 </pre>	<pre> 1040 </pre>	<pre> 1050          1060          1070          1080 C G A T G G A C G C C G G T G G T T A A G G C G A T G T G G A G G G A G G C C G Fad2-D wt 1041          C G A T G G G G A C G C C G G T G G T T A A G G C G A T G T G G A G G G A G G C C G Fad2-D (GA316) IMC 129 1041          C G A T G G G G A C G C C G G T G G T T A A G G C G A T G T G G A G G G A G G C C G Fad2-F wt 1041          C G A T G G G G A C G C C G G T G G T T A A G G C G A T G T G G A G G G A G G C C G Fad2-F (TA515) Q508 1041          C G A T G G G G A C G C C G G T G G T T A A G G C G A T G T G G A G G G A G G C C G Fad2-F (GA908) Q4275 1041          C G A T G G G G A C G C C G G T G G T T A A G G C G A T G T G G A G G G A G G C C G Fad2-F (GA908) Q4275 </pre>	<pre> 1080 </pre>
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Fig. 2G

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<p>1081 A AGGAGTG TATCTATGTGGAAACCGGACAGGCAGGTCAGA Fad2-D wt</p> <p>1081 A AGGAGTG TATCTATGTGGAAACCGGACAGGCAGGTCAGA Fad2-D (GA316) IMC 129</p> <p>1081 A AGGAGTG TATCTATGTGGAAACCGGACAGGCAGGTCAGA Fad2-F wt</p> <p>1081 A AGGAGTG TATCTATGTGGAAACCGGACAGGCAGGTCAGA Fad2-F (TA515) Q508</p> <p>1081 A AGGAGTG TATCTATGTGGAAACCGGACAGGCAGGTCAGA Fad2-F (GA908) Q4275</p>	<p>1110</p> <p>1110</p> <p>1110</p> <p>1110</p> <p>1110</p>	<p>1120</p> <p>1120</p> <p>1120</p> <p>1120</p> <p>1120</p>
<p>1090</p> <p>1130</p>	<p>1140</p> <p>1150</p>	<p>Fad2-D wt</p> <p>Fad2-D (GA316) IMC 129</p> <p>Fad2-F wt</p> <p>Fad2-F (TA515) Q508</p> <p>Fad2-F (GA908) Q4275</p>

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<p>1121 A GAAAAGGT GTGTTCTGGTACAACAAATAAGTTATGAA</p>	<p>1130</p> <p>1140</p> <p>1150</p> <p>1150</p> <p>1150</p>	<p>Fad2-D wt</p> <p>Fad2-D (GA316) IMC 129</p> <p>Fad2-F wt</p> <p>Fad2-F (TA515) Q508</p> <p>Fad2-F (GA908) Q4275</p>
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Fig. 2H

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Fig. 3A

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81	Leu	Ser	Tyr	Phe	Ala	Trp	Pro	Leu	Tyr	Trp	Ala	Cys	Gln	Gly	Cys	Val	Leu	Thr	Gly	Val	Fad2-D wt
81	Leu	Ser	Tyr	Phe	Ala	Trp	Pro	Leu	Tyr	Trp	Ala	Cys	Gln	Gly	Cys	Val	Leu	Thr	Gly	Val	Fad2-D (GA316) IMC129
81	Leu	Ser	Tyr	Phe	Ala	Trp	Pro	Leu	Tyr	Trp	Ala	Cys	Gln	Gly	Cys	Val	Leu	Thr	Gly	Val	Fad2-F wt
81	Leu	Ser	Tyr	Phe	Ala	Trp	Pro	Leu	Tyr	Trp	Ala	Cys	Gln	Gly	Cys	Val	Leu	Thr	Gly	Val	Fad2-F (TA515) Q508
81	Leu	Ser	Tyr	Phe	Ala	Trp	Pro	Leu	Tyr	Trp	Ala	Cys	Gln	Gly	Cys	Val	Leu	Thr	Gly	Val	Fad2-F (GA908) Q4275
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101	Trp	Val	Ile	Ala	His	Glu	Cys	Gly	His	Ala	Phe	Ser	Asp	Tyr	Gln	Trp	Leu	Asp	Asp	Fad2-D wt	
101	Trp	Val	Ile	Ala	His	Lys	Cys	Gly	His	Ala	Phe	Ser	Asp	Tyr	Gln	Trp	Leu	Asp	Asp	Fad2-D (GA316) IMC129	
101	Trp	Val	Ile	Ala	His	Glu	Cys	Gly	His	Ala	Phe	Ser	Asp	Tyr	Gln	Trp	Leu	Asp	Asp	Fad2-F wt	
101	Trp	Val	Ile	Ala	His	Glu	Cys	Gly	His	Ala	Phe	Ser	Asp	Tyr	Gln	Trp	Leu	Asp	Asp	Fad2-F (TA515) Q508	
101	Trp	Val	Ile	Ala	His	Glu	Cys	Gly	His	Ala	Phe	Ser	Asp	Tyr	Gln	Trp	Leu	Asp	Asp	Fad2-F (GA908) Q4275	
<hr/>																					
110																					120
121	Thr	Val	Gly	Leu	Ile	Phe	His	Ser	Phe	Leu	Leu	Val	Pro	Tyr	Phe	Ser	Trp	Lys	Tyr	Ser	Fad2-D wt
121	Thr	Val	Gly	Leu	Ile	Phe	His	Ser	phe	Leu	Leu	Val	Pro	Tyr	Phe	Ser	Trp	Lys	Tyr	Ser	Fad2-D (GA316) IMC129
121	Thr	Val	Gly	Leu	Ile	Phe	His	Ser	phe	Leu	Leu	Val	Pro	Tyr	Phe	Ser	Trp	Lys	Tyr	Ser	Fad2-F wt
121	Thr	Val	Gly	Leu	Ile	Phe	His	Ser	phe	Leu	Leu	Val	Pro	Tyr	Phe	Ser	Trp	Lys	Tyr	Ser	Fad2-F (TA515) Q508
121	Thr	Val	Gly	Leu	Ile	Phe	His	Ser	phe	Leu	Leu	Val	Pro	Tyr	Phe	Ser	Trp	Lys	Tyr	Ser	Fad2-F (GA908) Q4275
<hr/>																					
130																					140
141	His	Arg	Arg	His	His	Ser	Asn	Thr	Gly	Ser	Leu	Glu	Arg	Asp	Glu	Val	Phe	Val	Pro	Lys	Fad2-D wt
141	His	Arg	Arg	His	His	Ser	Asn	Thr	Gly	Ser	Leu	Glu	Arg	Asp	Glu	Val	Phe	Val	Pro	Lys	Fad2-D (GA316) IMC129
141	His	Arg	Arg	His	His	Ser	Asn	Thr	Gly	Ser	Leu	Glu	Arg	Asp	Glu	Val	Phe	Val	Pro	Lys	Fad2-F wt
141	His	Arg	Arg	His	His	Ser	Asn	Thr	Gly	Ser	Leu	Glu	Arg	Asp	Glu	Val	Phe	Val	Pro	Lys	Fad2-F (TA515) Q508
141	His	Arg	Arg	His	His	Ser	Asn	Thr	Gly	Ser	Leu	Glu	Arg	Asp	Glu	Val	Phe	Val	Pro	Lys	Fad2-F (GA908) Q4275
141	His	Arg	Arg	His	His	Ser	Asn	Thr	Gly	Ser	Leu	Glu	Arg	Asp	Glu	Val	Phe	Val	Pro	Lys	Fad2-F (GA908) Q4275
<hr/>																					
150																					160

Fig. 3B

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1161	Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu Gly Arg Thr Val Fad2-D (GA316) IMC129	1181	Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly Fad2-D wt	200
1161	Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu Gly Arg Thr Val Fad2-F wt	1181	Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly Fad2-F wt	200
1161	Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu Gly Arg Thr Val Fad2-F (TA515) Q508	1181	Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly Fad2-F (TA515) Q508	200
1161	Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu Gly Arg Thr Val Fad2-F (GA908) Q4275	1181	Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly Fad2-F (GA908) Q4275	200
190	<hr/>			190
190	<hr/>			190
210	<hr/>			210
210	<hr/>			210
220	<hr/>			220
220	<hr/>			220
230	<hr/>			230
230	<hr/>			230
240	<hr/>			240
240	<hr/>			240

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Fig. 3C



Appl. No.: 09/511,904  
 Inventor(s): Lorin R. DeBonte, et al.  
 FATTY ACID DESATURASES AND MUTANT SEQUENCES  
 THEREOF

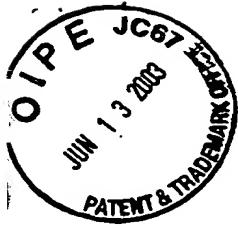
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241	Tyr Arg Tyr Ala Ala Val Gln Gly Val Ala Ser Met Val Cys Phe Tyr Gly Val Pro Leu Fad2-D wt	250	
241	Tyr Arg Tyr Ala Ala Val Gln Gly Val Ala Ser Met Val Cys Phe Tyr Gly Val Pro Leu Fad2-D wt	260	
241	Phe Arg Tyr Ala Ala Ala Gln Gly Val Ala Ser Met Val Cys Phe Tyr Gly Val Pro Leu Fad2-F (TA515) Q508		
241	Phe Arg Tyr Ala Ala Ala Gln Gly Val Ala Ser Met Val Cys Phe Tyr Gly Val Pro Leu Fad2-F (GA908) Q4275		
241	Phe Arg Tyr Ala Ala Ala Gln Gly Val Ala Ser Met Val Cys Phe Tyr Gly Val Pro Leu Fad2-F (GA908) Q4275		
261	Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu Fad2-D wt	270	
261	Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu Fad2-D wt	280	
261	Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu Fad2-F (TA515) Q508		
261	Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu Fad2-F (GA908) Q4275		
261	Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu Fad2-F (GA908) Q4275		
281	Pro His Tyr Asp Ser Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg Fad2-D wt	290	
281	Pro His Tyr Asp Ser Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg Fad2-D wt	300	
281	Pro His Tyr Asp Ser Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg Fad2-F (TA515) Q508		
281	Pro His Tyr Asp Ser Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg Fad2-F (GA908) Q4275		
281	Pro His Tyr Asp Ser Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg Fad2-F (GA908) Q4275		
301	Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His Fad2-D wt	310	
301	Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His Fad2-F wt	320	
301	Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His Fad2-F (TA515) Q508		
301	Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His Fad2-F (GA908) Q4275		
301	Asp Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His Fad2-F (GA908) Q4275		

Fig 3D

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340  
330

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360 350

360

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1

3361 Lys Glu Cys Ile Tyr Val Glu Pro Asp Arg Gln Gly Glu Lys Lys

Fad2-D	wt	
Fad2-D	(GA316)	IMC129
Fad2-F	wt	
Fad2-F	(TA515)	Q508
Fad2-F	(GA908)	Q4275

Fad2-D WT

Fad2-D (GA)

Endo-E wt

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Fauze et al.

FadZ-F

Fig. 32

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